

Title (en)
VMP-like sequences of pathogenic borrelia

Title (de)
VMP-ähnliche Sequenzen von Pathogener Borrelia

Title (fr)
Séquences de Borrelia pathogènes semblables à une pmv

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Application
EP 05010338 A 19970220

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Abstract (en)
[origin: WO9731123A1] The present invention relates to DNA sequences encoding Vmp-like polypeptides of pathogenic Borrelia, the use of the DNA sequences in recombinant vectors to express polypeptides, the encoded amino acid sequences, application of the DNA and amino acid sequences to the production of polypeptides as antigens for immunoprophylaxis, immunotherapy, and immunodiagnosis. Also disclosed are the use of the nucleic acid sequences as probes or primers for the detection of organisms causing Lyme disease, relapsing fever, or related disorders, and kits designed to facilitate methods of using the described polypeptides, DNA segments and antibodies.

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Citation (search report)
• [X] DATABASE UniProt [online] 21 July 1986 (1986-07-21), "Complement C3 precursor (HSE-MSF) [Contains: Complement C3 beta chain; Complement C3 alpha chain; C3a anaphylatoxin; Complement C3b alpha' chain; Complement C3c fragment; Complement C3dg fragment; Complement C3g fragment; Complement C3d fragment; Complement C3, isoform Short; C3f fragment]. 671 7", XP002345924, retrieved from EBI accession no. UNIPROT:P01027 Database accession no. P01027
• [X] CARTER C J ET AL: "A FAMILY OF SURFACE-EXPOSED PROTEINS OF 20 KILODALTONS IN THE GENUS BORRELIA", INFECTION AND IMMUNITY, AMERICAN SOCIETY FOR MICROBIOLOGY, WASHINGTON, US, vol. 62, no. 7, July 1994 (1994-07-01), pages 2792 - 2799, XP009010051, ISSN: 0019-9567
• [X] BARBOUR A G ET AL: "VARIABLE ANTIGEN GENES OF THE RELAPSING FEVER AGENT BORRELIA HERMSII ARE ACTIVATED BY PROMOTER ADDITION", MOLECULAR MICROBIOLOGY, BLACKWELL SCIENTIFIC, OXFORD, GB, vol. 5, no. 2, 1991, pages 489 - 493, XP009010052, ISSN: 0950-382X
• [X] PLASTERK R H A ET AL: "TRANSPOSITION OF STRUCTURAL GENES TO AN EXPRESSION SEQUENCE ON A LINEAR PLASMID CAUSES ANTIGENIC VARIATION IN THE BACTERIUM BORRELIA HERMSII", NATURE, MACMILLAN JOURNALS LTD, LONDON, GB, vol. 318, no. 6043, 21 November 1985 (1985-11-21), pages 257 - 263, XP001147416, ISSN: 0028-0836
• [A] MARGOLIS N ET AL: "Homology between Borrelia burgdorferi OspC and members of the family of Borrelia hermsii variable major proteins", GENE, ELSEVIER BIOMEDICAL PRESS, AMSTERDAM, NL, vol. 143, no. 1, 27 May 1994 (1994-05-27), pages 105 - 110, XP002165398, ISSN: 0378-1119
• [A] RESTREPO B I ET AL: "SUBTELOMERIC EXPRESSION REGIONS OF BORRELIA HERMSII LINEAR PLASMIDS ARE HIGHLY POLYMORPHIC", MOLECULAR MICROBIOLOGY, BLACKWELL SCIENTIFIC, OXFORD, GB, vol. 6, no. 22, 1992, pages 3299 - 3311, XP002946101, ISSN: 0950-382X
• [A] KITTEN T ET AL: "INTRAGENIC RECOMBINATION AND A CHIMERIC OUTER MEMBRANE PROTEIN IN THE RELAPSING FEVER AGENT BORRELIA HERMSII", JOURNAL OF BACTERIOLOGY, WASHINGTON, DC, US, vol. 175, no. 9, May 1993 (1993-05-01), pages 2516 - 2522, XP002946102, ISSN: 0021-9193
• [T] ZHANG J-R ET AL: "ANTIGENIC VARIATION IN LYME DISEASE BORRELIÆ BY PROMISCUOUS RECOMBINATION OF VMP-LIKE SEQUENCE CASSETTES", CELL, CELL PRESS, CAMBRIDGE, NA, US, vol. 89, no. 2, April 1997 (1997-04-01), pages 275 - 285, XP002900265, ISSN: 0092-8674

Cited by
US2020255889A1; WO2011063003A2; EP3502125A1; EP4296673A2

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US 201313738518 A 20130110; US 201514968842 A 20151214; US 22216202 A 20020816; US 22256602 A 20020816;
US 50116606 A 20060807; US 85255504 A 20040524; US 85301910 A 20100809; US 95255504 A 20040928